

CORRGUARD™ FS MULTIFUNCTIONAL ADDITIVE

Cost-Effective Primary Amino Alcohol Chemistry for Improving Multi-Metal Compatibility in Extended-Life Metalworking Fluid Formulations

CORRGUARD™ FS is a cost-effective, multifunctional additive that can be used as an alternative to monoisopropanolamine (MIPA), diglycolamine (DGA), and monoethanolamine (MEA) in extended-life metalworking fluid formulations.

CORRGUARD FS offers several advantages across the full range of water-miscible metal removal fluids, metal forming fluids, and metal cleaners.

- Best-in-class multi-metal compatibility with ferrous and non-ferrous metals.
- Improved aluminum staining performance.
- Enhanced fluid longevity and compatibility with a wide range of registered biocides including triazine and BIT.
- Extended fluid longevity for metal cleaners.
- Excellent formulation stability with improved foam control.
- Primary amino alcohol chemistry with a preferred EH&S profile.
- Secure, reliable global supply.

BEST-IN-CLASS MULTI-METAL COMPATIBILITY

Fig. 1: Multi-Metal Leaching and Staining Results in Formulated Metalworking Fluids

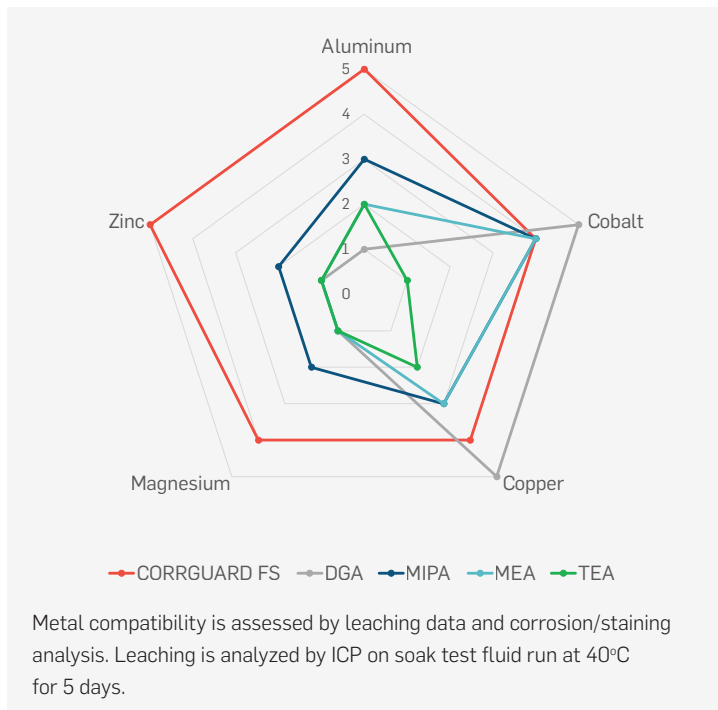
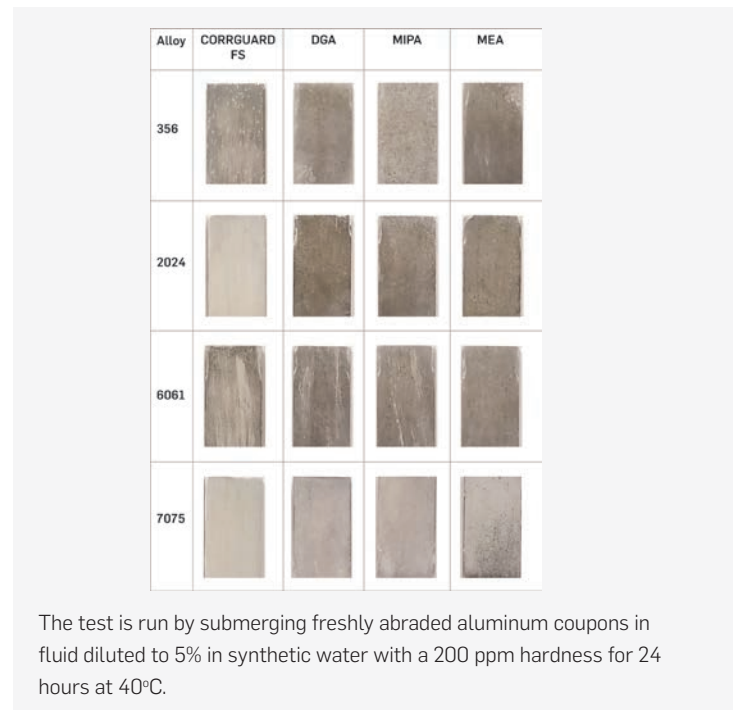
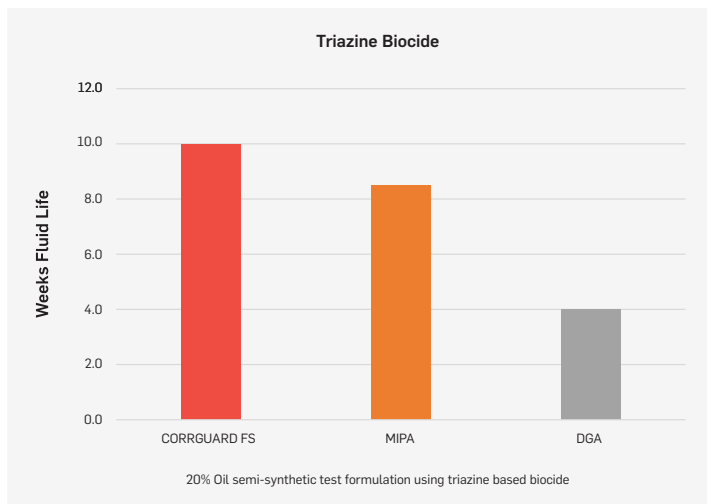


Fig. 2: CORRGUARD FS Shows Improved Aluminum Staining Performance



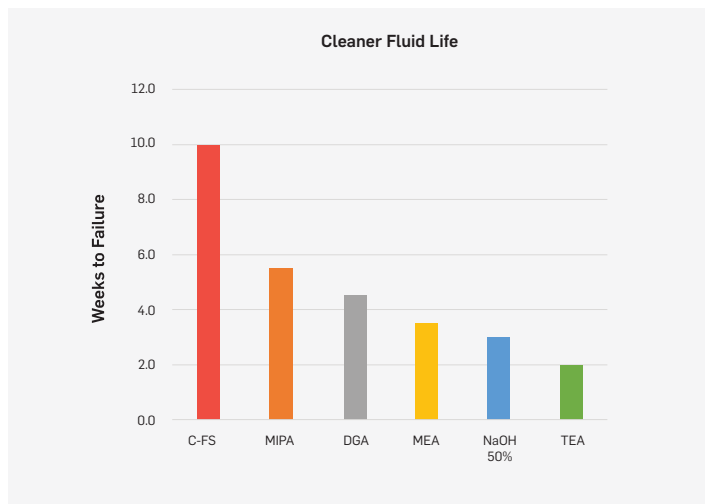
ENHANCED FLUID LONGEVITY IN METALWORKING FLUIDS AND CLEANERS

Fig. 3: Improved Fluid Longevity in a Semi-Synthetic Metalworking Fluid



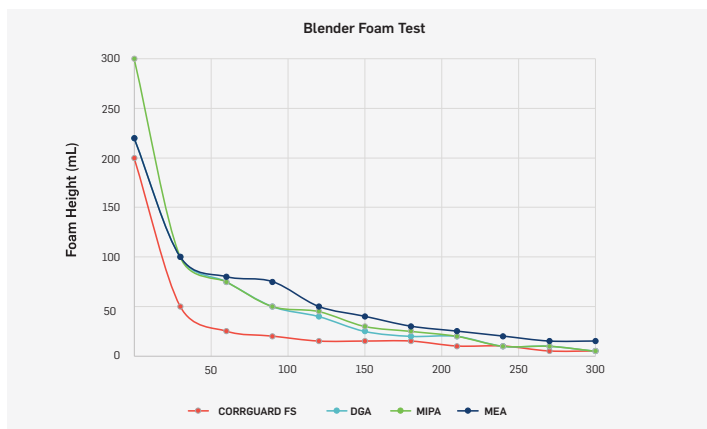
An in-house fluid life test similar to ASTM E2275 was performed. Samples are inoculated on a weekly basis with bacterial and fungal sources, and later plate-streaked in order to assess the fluid's resistance to microbial growth. Fluid failure is when a sample shows heavy growth for two weeks in a row.

Fig. 4: Improved Fluid Longevity in an Aqueous Metal Cleaner



Testing was completed on a water-based alkaline metal cleaner formulation for aluminum applications utilizing molar equivalents of the represented pH builder. These formulas were diluted at 3% in tap water for testing.

Fig. 5: Blender Foam Test of Diluted Semi-Synthetic Metalworking Fluids



Diluted metalworking fluid was blended at high speed in a foam blender for 1 minute. Foam height is measured by graduations on the blender container up to 5 minutes.

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